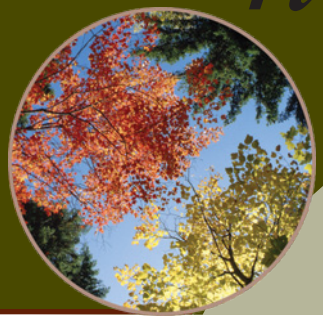
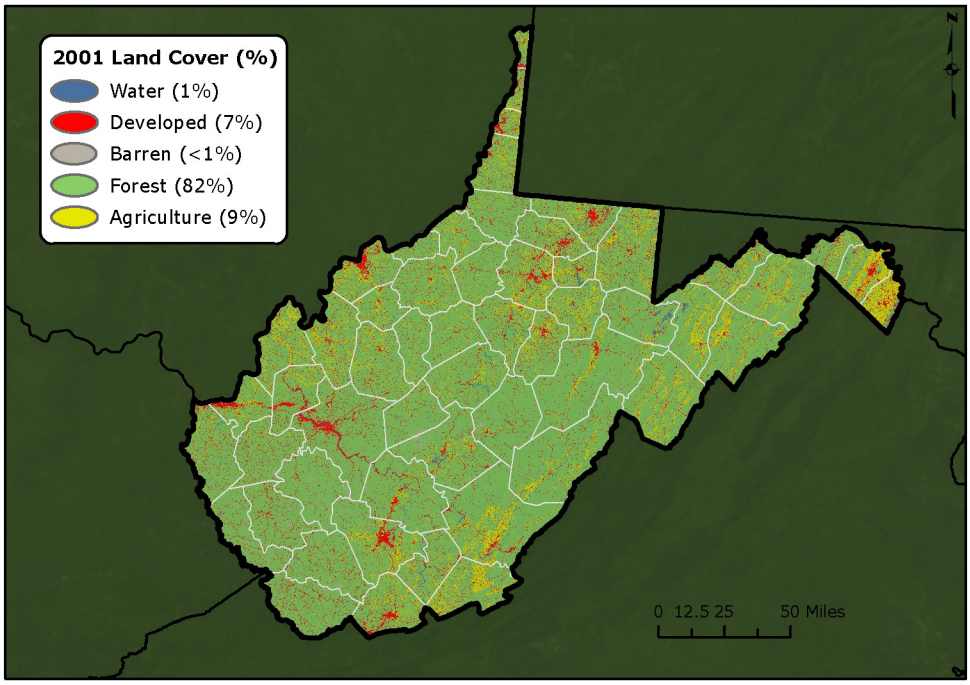
2010 Forest Health highlights

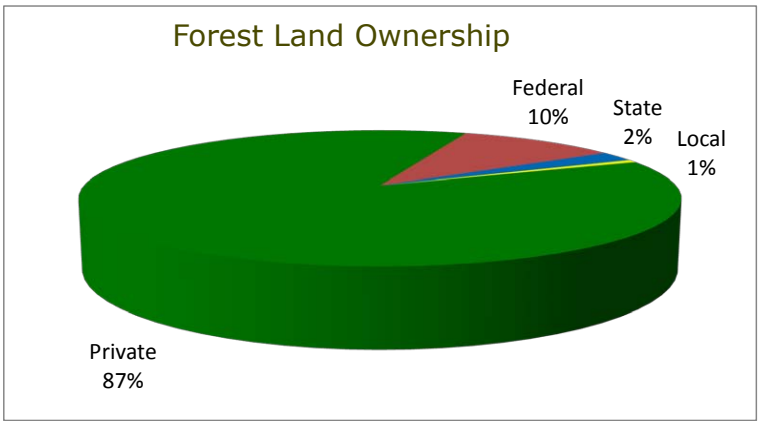
WEST VIRGINIA



The Resource

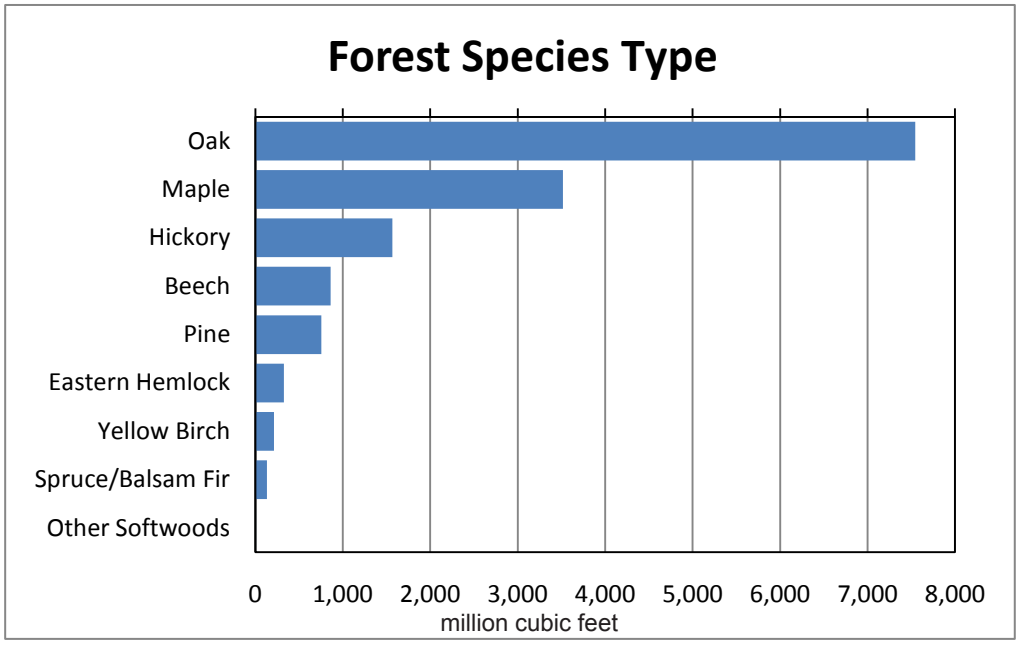
The West Virginia landscape is dominated by more than 11.8 million acres of forest. Due in large part to its varied topography, the forest is a rich diversity of oaks, hickories, spruce, pines, and the West Virginia State Tree—sugar maple. Ninety percent of all forests in West Virginia are privately owned, but there are 9 state forests, 36 state parks, and 56 wildlife management areas that provide public enjoyment.





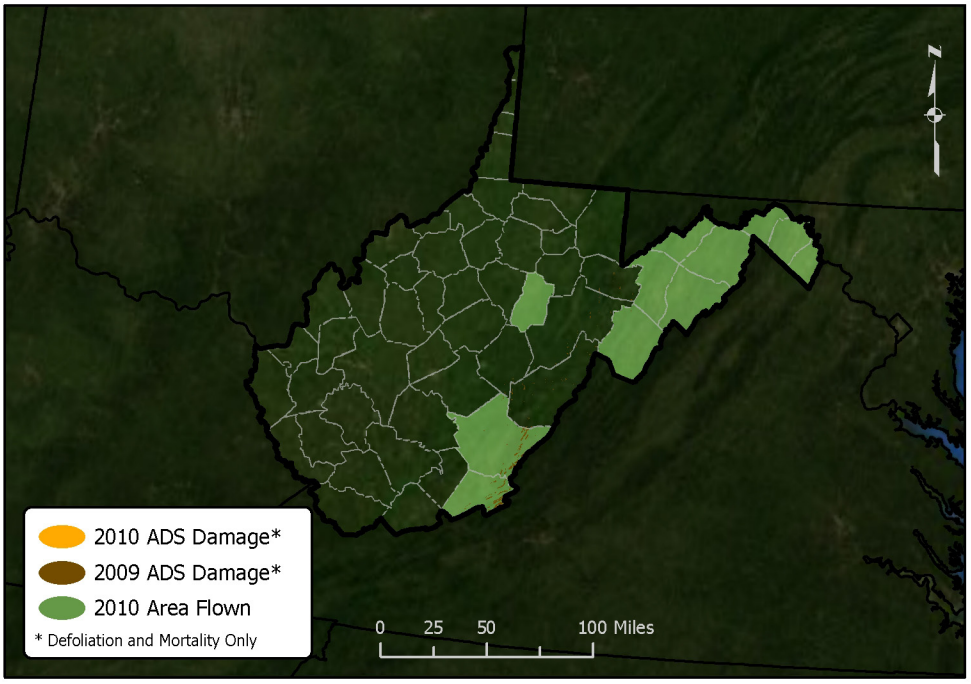
Forest Health Programs

State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.



Aerial Surveys

Of the West Virginia counties that were flown in the 2010 aerial detection survey, no damage was reported.



This map delineates aerial detection survey (ADS) results for West Virginia in 2009 and 2010.

Forest Stewardship

The Forest Stewardship Program is administered by the West Virginia Division of Forestry. The intent of the program is to assist private, nonindustrial forest landowners with improving their forests by managing them in a sound, scientific manner. In West Virginia, the Forest Stewardship Program includes having a forest management plan written by a professional forester, as well as financial assistance for recreation, forest improvement, soil and water protection, wetlands protection, fisheries habitat enhancement, wildlife habitat enhancement, tree planting, and improvement of forest roads. From 1990 through June 30, 2010, there have been 4,802 stewardship plans written in West Virginia; these plans have covered 778,465 acres of private forest lands.

Special Issues

Gypsy Moth Program

Quarantine

West Virginia currently has 39 counties that are regulated and considered generally infested by gypsy moth. The West Virginia Department of Agriculture (WVDA) regulates the movement of articles out of these counties into nonquarantined counties or States. There were no new counties quarantined in West Virginia in 2010, and the WVDA does not expect any additional counties to be quarantined in 2011.

Gypsy Moth Population

Gypsy moth populations in West Virginia declined in 2010 due to a mild collapse primarily caused by the fungus *Entomophaga maimaiga* in 2009. Potential defoliating populations for 2011 may occur in the Eastern Panhandle and the southeastern counties of Monroe and Greenbrier.

Gypsy Moth Suppression - Cooperative State County Landowner Program

WVDA staff responded to 4,525 landowner requests and completed surveys on 276,904 acres of forested lands to determine areas at risk for gypsy moth defoliation or mortality. Staff completed 3,167 1/40-acre plot surveys to determine areas at risk for gypsy moth defoliation. No areas were found to be at risk for potential defoliation or mortality in 2010. There were no larval insecticide treatments made in the Cooperative State County Landowner Program in 2010.

Regulatory Suppression (Insecticide Treatments)

There were no regulatory insecticide treatments in West Virginia in 2010.

Slow the Spread (STS) Trapping Program

Trap placement in the STS 2k Action Area and 3k and 8k Monitoring Areas are illustrated in figure 1. The Action Area covered approximately 4,102,070 acres. The 3k and 8k Monitoring Areas covered about 5,095,602 acres in West Virginia. The 2k base grid was set with delta traps. Milk carton traps were used within the 3k and 8k Monitoring Areas and select intensive grids (500m and 1k). A total of 5,419 traps were proposed across West Virginia and a total of 5,397 traps were set. At the time of this publication, STS gypsy moth trap catches in West Virginia were up in 2010.

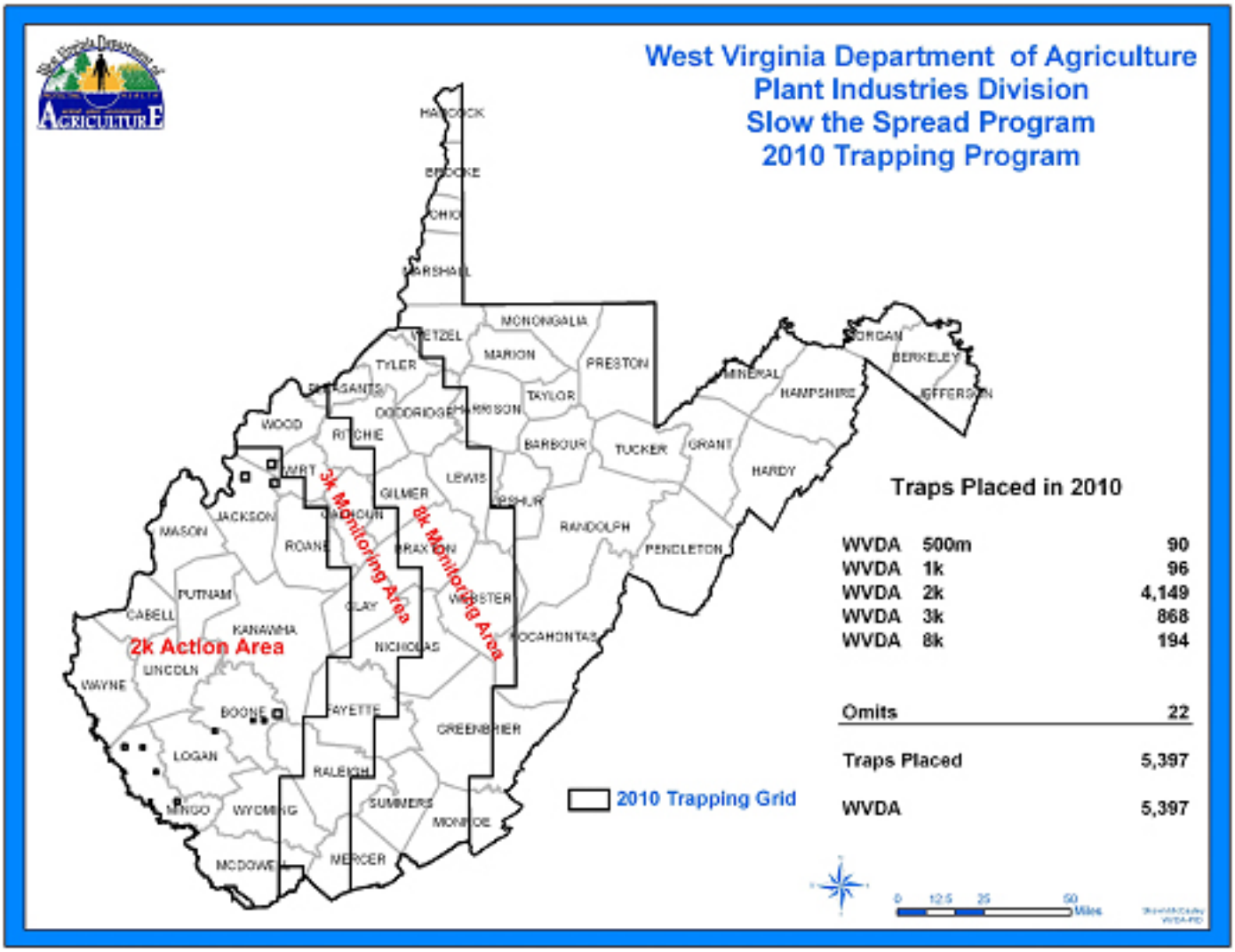


Figure 1. Map of the West Virginia Slow the Spread 2010 Trapping Program.

Phytophthora ramorum Provisional Laboratory Approval Program

Personnel from the WVDA, Plant Industries Division, PCR Laboratory participated again in the United States Department of Agriculture-Animal and Plant Health Inspection Service-Plant Protection Quarantine (USDA-APHIS-PPQ) *Phytophthora ramorum* Laboratory Provisional Approval Program. Lab personnel were administered the proficiency panel in April and were notified in April that they had passed the test panel. The lab and its personnel are provisionally approved for 2010 to perform validated diagnostic tests for *Phytophthora ramorum* on behalf of the USDA-APHIS-PPQ Programs.

Phytophthora ramorum Early Detection Survey for Forests – Stream Baiting

This is the fifth year of stream baiting for early detection of *Phytophthora ramorum* and detection of other *Phytophthora* species in a stream environment using bait leaves. The U.S. Forest Service launched a pilot survey in 2006.

Three of the four streams chosen for stream baiting were in the same watershed as a Trace Forward Nursery. The other stream was in a watershed that contained a nursery that was considered an unofficial Trace Forward Nursery. This provided locations where baiting could be conducted downstream of these nurseries.

Five out of six baiting periods were completed because of a late start in the fall because of warm temperatures and low water levels. Three were completed in the spring and the other two were completed in the fall when water temperatures had dropped below 22 °C.

Culturing (WVDA) and Real-Time PCR (Pennsylvania Department of Agriculture) were used for detection of *P. ramorum.* Culturing was used for detection of general *Phytophthora* species and ELISA was used to corroborate culturing results. *P. ramorum* was not detected in any of the bait leaves sampled or cultured. *Phtyophthora* species were recovered 100 percent of the time for all of the baiting periods.

Beech Mortality Survey

Beech mortality now encompasses 1,705,820 acres in West Virginia. This acreage increased by 304,032 acres from the mortality survey that was done in 2005.

The beech trees in the foreground were killed by beech bark disease. Inset: This beech trunk has red fruiting bodies of the Neonectria fungus, one of two organisms that cause beech bark disease.

Hemlock Woolly Adelgid (HWA)

With new detections in Lewis, Taylor, and Wirt Counties, HWA can now be found in 39 West Virginia counties. In 2010, *Laricobius nigrinus* beetles (4,000 adults) were released in the Wolf Creek watershed within the National Park Service boundary for the New River Gorge National River. This is the largest such release to ever take place in the State. Previous release sites of *L. nigrinus* were monitored for predator survival and impact on HWA. A recovery was made at Plum Orchard Lake WMA, marking the first such recovery by WVDA.

The WVDA continued to treat high-value and high-visibility infested hemlocks by injecting imidacloprid into the soil, inserting Coretect tablets into the soil, and injecting trunks. A new trunk injection system was purchased. A total of 1,167 trees were treated at 24 sites: 21 State and 3 Federal.

Laricobius nigrinus *beetles were released to help control the hemlock woolly adelgid.*

A hemlock tree infested with hemlock woolly adelgid was injected with imidacloprid.

Oak Gall Wasp (Neuroterus spp.)

After a multiyear hiatus, an outbreak of oak gall wasp occurred again in 2010. A brief survey found the wasp in 15 counties, with new detections in the following counties: Barbour, Braxton, Cabell, Marion, Mercer, Taylor, Wayne, and Webster.

Bacterial Leaf Scorch (BLS)

BLS was found in two new counties in 2010: Barbour and Wayne. BLS was detected in one new host: witch hazel. At this time, BLS is now found in 11 counties in West Virginia and on a total of 8 hosts. Prior to 2008, BLS had only been detected in one county (Jefferson). Samples were processed by the WVDA Plant Pathology Lab.

Annosus Root Disease (Preliminary) Survey

Candidate pine stands were surveyed and selected for sampling for a *Heterobasidion* root disease survey.

Emerald Ash Borer (EAB)

With new detections in **Nicholas, Raleigh,** and **Calhoun Counties**, EAB can now be found in six West Virginia counties. In 2010, APHIS released two parasitoids—*Spathius agrili* and *Tetrastichus planipennisi*—as biological controls.

Forest Fire

Fiscal Year 2010 consisted of the fall 2009 and spring 2010 fire seasons. During these two fire seasons, 655 wildland fires burned throughout the State, consuming 19,677 acres of forest and agricultural land. When compared to the wildland fire numbers from Fiscal Year 2009, the overall number of fires decreased while the number of acres consumed increased. The drop in number of fires can be attributed to favorable weather conditions, which produced consistent precipitation for the majority of the year. The increase in acres consumed can be attributed to the very few weeks when the weather conditions produced very dry and windy conditions. These periods were few in numbers but produced enhanced fire danger conditions, which required indirect fire suppression methods, which in turn led to increased fire size. The three leading causes of wildland fire continued to be debris burning (30 percent), incendiary (arson) (38 percent), and equipment use (18 percent). Resource damage caused by wildland fire is estimated to be $297 per acre, which means that in Fiscal Year 2010, approximately $5.8 million in resource value was lost. With continuous years of below-average rainfall and even with periodic wet times, water tables and soil moisture levels are still concerns for the Division of Forestry for the coming spring 2011 fire season. The Eastern Panhandle of the State will be an area of increased concern due to the extreme drought condition experienced at the end of the summer months of 2010.

The West Virginia Department of Agriculture (WVDA) and the U.S. Forest Service hosted a field trip for State cooperators on September 22, 2010, at Blackwater Falls State Park in West Virginia. Forest Service pathologist Al Iskra (white shirt) and WVDA State pathologist Jill Rose discussed beech bark disease with field trip participants.

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